



EMCON
Southwest

April 27, 1992
Project C34-08.01

Mr. Boramy Ith
Douglas Aircraft Company
3855 Lakewood Boulevard
Mail Code 74-41
Long Beach, California 90846

Subject: Closure Report for Underground Storage
Tanks 9T, 10T, and 15T through 18T
Douglas Aircraft Company - Torrance Facility (C6)
19503 South Normandie Avenue
Torrance, California 90502 (Contract LS-25833-C)

Dear Mr. Ith:

EMCON Southwest (EMCON) is pleased to report the tank closure and related soil sampling activities for underground storage tanks no. 9T, 10T, and 15T through 18T at the referenced Douglas Aircraft Company (DAC) facility. The closure and sampling activities were performed at the request of DAC in accordance with EMCON's revised workplan dated August 30, 1991.

SUMMARY

The following is a summary of the findings and conclusions of tank closure and soil sampling activities which are discussed in the remainder of this report.

- Excavation and removal of underground storage tanks 9T, 10T, and 15T through 18T were completed during October 11 and 12, 1991.
- Vadose wells 9TW and 10TW (adjacent to tanks 9T and 10T) and a concrete wash slab (near tank 15T) were removed and a surface runoff drain (adjacent to tank 9T) was backfilled during excavation activities.

- A total of 18 soil samples were collected for chemical analysis from beneath the tanks, the excavated soil piles, and the piping area located between tank 15T and building 36.
- No concentrations of total petroleum hydrocarbons (TPH), benzene, toluene, xylenes, ethylbenzene (BTXE), or hexavalent chromium were detected in soil samples collected from the excavation for tanks 9T and 10T.
- No concentrations of BTXE were detected in soil samples collected from the excavation for tanks 15T through 18T, the associated spoil piles, and the piping area near tank 15T.
- TPH concentrations were detected in soil samples collected from the spoil piles, beneath tanks 15T through 18T and the piping area near tank 15T.
- TPH concentrations detected from the spoil piles and piping area exceed the cited regulatory guidelines.
- Concentrations of chromium, nitrate, sulfate, and fluoride detected beneath tank 9T and the associated spoil pile were below cited regulatory criteria.

BACKGROUND

The project site is located southwest of the intersection of Normandie Avenue and 190th Street in Torrance, California (see Figure 1). Tanks no. 9T and 10T were located north of DAC building no. 66. Tanks no. 15T through 18T were located between DAC buildings no. 1 and 36.

EMCON prepared a workplan for the removal of tanks 9T, 10T, and 15T through 18T (EMCON, January 21, 1991). During a June 19, 1991 meeting, DAC requested an additional scope of work which was incorporated into EMCON's revised workplan (EMCON, August 30, 1991). The additional tasks requested by DAC included:

- removal of 2 vadose wells (9TW and 10TW) located adjacent to tanks 9T and 10T
- closure of a surface runoff drain adjacent to tank 9T
- removal of a concrete wash slab near tank 15T

According to DAC, the following constituents were previously stored in these tanks:

- tank 9T (5,000 gallon) waste acid
- tank 10T (10,000 gallon) waste water, oil, and soap
- tank 15T (3,000 gallon) waste solvents
- tank 16T (5,000 gallon) trichloroethane
- tank 17T (5,000 gallon) trichloroethane
- tank 18T (5,000 gallon) methylene chloride
and isopropyl alcohol

Analytical data provided by DAC for soil borings and vadose wells located in the immediate vicinity of tanks 15T through 18T indicate that concentrations of methylene chloride, 1,1,1-trichloroethane, trichloroethylene, toluene, xylenes, and ethylbenzene were detected at depths ranging from approximately 5 to 20 feet below grade (see Attachment 1). The location of the DAC soil borings and vadose wells are shown in Figure 2. It is EMCON's understanding that assessment of this area is currently under the jurisdiction of the California Regional Water Quality Control Board (RWQCB). Soil samples collected from this area by EMCON were analyzed for those compounds specified by the Los Angeles City Fire Department (LACFD).

TANK REMOVAL

Tank excavation and soil sampling activities were conducted under the jurisdiction of the Los Angeles City Fire Department (LACFD), permit no. 1856. A copy of the permit is included in Attachment 2.

Tanks 9T, 10T, and 15T through 18T were excavated by Disposal Control Service (DCS), under the supervision of EMCON during October 11 and 12, 1991. During excavation of tanks 9T and 10T, vadose monitoring wells 9TW and 10TW were removed and the adjacent concrete surface drain was backfilled. During excavation of tank 15T the concrete wash slab was removed. The tank interiors were high pressure cleaned in compliance with LACFD requirements. The rinseate liquids from tank 9T were removed by DCS and transported to Norris Industries, in Los Angeles, California (see Attachment 3). Rinseate liquids from tank 10T were transported by DCS to Chem-Tech Systems, Inc. in Vernon, California. Rinseate from tanks 15T through 18T were stored on site pending future consideration of disposal options. Prior to transport all

tanks were certified as clean by CTL Environmental Services of Harbor City, California (see Attachment 4). Following certification the tanks were transported by DCS to American Metal Recycling, Ontario, California to be destroyed for scrap purposes (see Attachment 5).

Excavated soils related to tanks 9T and 10T were stockpiled on site for subsequent disposal by DAC. Excavated soils from tanks 15T through 18T were returned to the excavation following tank removal, pending further site assessment as requested by the LACFD and DAC. Clean gravel and soil was used as backfill in the excavations to account for the volume of removed tanks and soil. Backfilled soils were compacted to approximately 90 percent relative compaction as certified by Duco Engineering, Inc. of Walnut, California (see Attachment 6). The excavations were completed with approximately 6-inch-thick asphalt surfacing.

SOIL SAMPLING

Soil samples from both excavations and the spoil piles were collected by EMCON under the direction of the LACFD. Soil sampling procedures are included in Attachment 7.

Tanks 9T and 10T

A total of five soil samples (DAC-06 through DAC-10) were collected beneath tanks 9T and 10T for laboratory analysis (see Figure 2). In addition a total of four soil samples (DAC-15 through DAC-18) were collected from the associated spoil piles.

Tanks 15T through 18T

A total of five soil samples (DAC-01 through DAC-05) were collected beneath tanks 15T through 18T (see Figure 3). Three soil samples (DAC-12 through DAC-14) were collected from the associated spoil pile. One sample (DAC-11) was collected beneath excavated piping located between tank 15T and building no. 36.

LABORATORY ANALYSES

All soil samples were analyzed by a California-certified analytical laboratory for compounds specified by the LACFD as follows:

- Soil samples collected from beneath tanks 10T, 15T through 18T, and the spoil piles were analyzed for total petroleum hydrocarbons (TPH) by U.S. EPA Method 8015.

- All soil samples were analyzed for benzene, toluene, xylenes, and ethylbenzene (BTXE) by U.S. EPA Method 8020.

In addition to the above analyses required by the LACFD, soil samples collected from beneath tank 9T and the associated spoil pile were analyzed for compounds previously contained in tank 9T. These additional analyses, completed according to EMCON's revised workplan (August 30, 1991) included:

- total chromium by U.S. EPA Method 7190
- anion scan for nitrates, sulfates, and fluorides by U.S. EPA Method 300.0 modified

At the request of DAC sample DAC-10, collected beneath tank 9T, was analyzed for soluble threshold limit concentration (STLC) hexavalent chromium by U.S. EPA Method 7197.

The certified analytical reports and chain-of-custody documentation are included in Attachment 8.

FINDINGS

Tanks 9T and 10T

As shown in Table 1, no concentrations of TPH (<10 mg/kg) or BTXE (<0.005 mg/kg) were detected in soil samples collected from beneath tanks 9T and 10T (DAC-06 through DAC-10). In addition no concentrations of BTXE were detected in soil samples collected from the spoil piles (DAC-15 through DAC-18). TPH concentrations (up to 4,100 mg/kg) were detected in soil samples DAC-15 through DAC-18 collected from the spoil piles.

No concentrations of hexavalent chromium (<0.10 mg/L) were detected in sample DAC-10.

Concentrations of total chromium (up to 160 mg/kg), nitrate (27 mg/kg), sulfate (up to 250 mg/kg), and fluoride (66 mg/kg) were detected in soil samples collected from beneath tank 9T (DAC-09 and DAC-10). Concentrations of total chromium (450 mg/kg) and sulfate (1,000 mg/kg) were detected in soil sample DAC-15, collected from the spoil pile associated with tank 9T.

Tanks 15T through 18T

BTXE concentrations (<0.005 mg/kg) were not detected in soil samples collected from beneath tanks 15T through 18T (DAC-01 through DAC-05), the spoil pile (DAC-12 through DAC-14), and the piping between tank 15T and building no. 36 (DAC-11). TPH concentrations were detected in soil samples collected from beneath tanks 15T through 18T (up to 45 mg/kg), the spoil pile (up to 73 mg/kg), and the piping area (700 mg/kg).

REGULATORY CRITERIA AND GUIDELINES

Soil regulatory criteria and guidelines are discussed below and summarized in Table 1.

Total Threshold Limit Concentrations

The California Code of Regulations (CCR), Title 22, Division 4.5 establishes numerical criteria to determine if a waste should be considered hazardous (CCR, May 1991). These criteria include the total threshold limit concentration (TTLC) which is the total concentration of a substance (in a solid material), which is considered hazardous for the purpose of disposal. A solid waste with a concentration of a specific element or compound equal to or above the TTLC is considered a hazardous waste because of the persistent and bioaccumulative nature of the specific toxic substance present.

TTLC values are not defined for constituents detected in soil samples DAC-01 through DAC-18 with the exception of chromium and fluoride. Concentrations of these two constituents were all below the respective TTLC values.

Soluble Threshold Limit Concentration

The California Code of Regulations (CCR), Title 22, Division 4.5 establishes numerical criteria to determine if a waste should be considered hazardous (CCR, May 1991). These criteria include the soluble threshold limit concentration which is the soluble concentration (mg/L) of a substance (in a liquid) which is considered hazardous for the purpose of disposal. A solid waste which, after treatment with the waste extraction test (WET), produces dissolved concentrations of specific substances in excess of their STLCs is considered a hazardous waste because of the extractable and persistent bioaccumulative nature of the specific toxic substance present.

Soil Ingestion Screening Values

Soil ingestion Screening Values (SSVs) are used by Cal-EPA as a preliminary method to assess whether or not significant impact has occurred to soils at a site (DHS, June 22, 1990). SSVs can be used to show that a site is not significantly impacted, leading to an issuance of "No Further Action" determination by the DHS. However, SSVs cannot be used as site cleanup levels and pertain only to human health risk, not environmental risk. Therefore a site with low SSVs may require remediation as determined by the DHS. Concentrations of compounds in soils which exceed an SSV but are below background are assumed to indicate the naturally occurring concentrations of these compounds.

SSVs are not defined for the compounds detected in soil samples DAC-01 through DAC-18 with the exception of chromium, nitrate, fluoride. Concentrations of these three compounds were all below the respective SSVs.

Petroleum-Hydrocarbon Guidelines

Guidelines have been established by the RWQCB-Lahontan Region for petroleum-hydrocarbon impacted soils (RWQCB, January 7, 1987). Soils with petroleum-hydrocarbon concentrations that exceed 1,000 mg/kg commonly require removal, remediation, or a justification as to why removal or remediation are not warranted. Soils with petroleum-hydrocarbon concentrations between 100 and 1,000 mg/kg are typically reviewed on a case-by-case basis to assess if removal or remediation is necessary. Removal of soils with petroleum-hydrocarbon concentrations less than 100 mg/kg is generally not required by the RWQCB. Waste oil cleanup standards are decided on a case-by-case basis. These guidelines are sometimes used by other regulatory agencies.

TPH concentrations exceeding the RWQCB guidelines were detected in soil samples collected from the spoil piles associated with tanks 9T and 10T (DAC-15 through DAC-18) and from the piping area near tank 15T (DAC-11). Disposal of excavated soils from these areas was subsequently managed by DAC.

CONCLUSIONS

Based on our findings, EMCON presents the following conclusions:

- No concentrations of TPH, BTXE, or hexavalent chromium were detected in soil samples collected beneath tanks 9T and 10T.

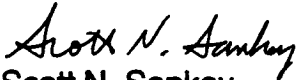
- No concentrations of BTXE were detected in soil samples collected from the spoil piles, beneath tanks 15T through 18T, or the piping area near tank 15T.
- TPH concentrations were detected in soil samples collected from the spoil piles beneath tanks 15T through 18T, and the piping area near tank 15T.
- TPH concentrations detected from the spoil piles and the piping area exceed the cited regulatory guideline.
- Concentrations of chromium, nitrate, sulfate, and fluoride were detected beneath tank 9T and the associated spoil pile and are below the cited regulatory criteria.

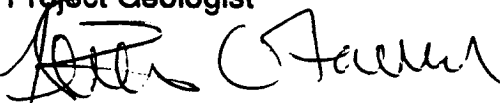
The closure assessment and report were performed and prepared using generally accepted consulting and engineering procedures and practices, and within the limits described in Attachment 9.

If you have any questions regarding the report please do not hesitate to call us at (818) 841-1160.

Sincerely,

EMCON Southwest


Scott N. Sankey
Project Geologist


Keith G. Farrell
Director of Geology

SNS/KGF:keb

Attachments: References

Table 1 - Summary of Soil Analytical Results

Figure 1 - Site Location Map

Figure 2 - Location of Tanks 9T and 10T

Figure 3 - Location of Tanks 15T through 18T

**Attachment 1 - Analytical Data From DAC Soil
Borings 15TB and 17TB and Vadose
Wells B-6 through B-8**

**Attachment 2 - Los Angeles City Fire Department - Tank
Removal Permit**

**Attachment 3 - Uniform Hazardous Waste Manifests for
Rinseate Liquids**

Attachment 4 - Certified Industrial Hygienist Certificate

Attachment 5 - Certification of Tank Disposal

**Attachment 6 - Compaction Report - Tank Excavation
Backfill**

**Attachment 7 - Soil Sampling and Tank Removal
Monitoring**

**Attachment 8 - Certified Analytical Report and Chain-of-
Custody Documentation**

Attachment 9 - Limitations

**cc: Inspector Don Smith,
Los Angeles City Department of Fire**

REFERENCES

CCR, May 1991, California Code of Regulations, Title 22, Division 4.5, 1991.

DHS, June 22, 1990, Interim Guidelines for Preparation of a Preliminary Endangerment Assessment Report: California Department of Health Services.

EMCON, August 30, 1991, Workplan for Underground Storage Tank Removal, Douglas Aircraft Company, Torrance Facility (C6), 19503 South Normandie Avenue, Torrance, California: EMCON Associates, Burbank, California (project no. C34-08.01).

EMCON, January 21, 1991, Transmittal of Bid No. C1-151-7BD-032: EMCON Associates, Burbank, California (project no. C34-08.01).

Federal Register, Volume 55, No. 134, July 27, 1990, 40 CFR Parts 264, 265, 270, and 271 Corrective Action for Solid Waste Management Units at Hazardous Waste Management Facilities; Proposed Rule.

RWQCB, January 7, 1987, Guidelines for the Disposal of Effluent from Fuel and/or Solvents Contaminated Ground-Water Treatment Systems and Cleanup of Petroleum Hydrocarbon Contaminated Soils: California Regional Water Quality Control Board - Lahontan Region.

TABLE 1
SUMMARY OF SOIL ANALYTICAL RESULTS
Douglas Aircraft Company Torrance Facility (C6)
19503 South Normandie Avenue, Torrance, California

Sample No.	Location	Date Sampled	TPH (1) (mg/kg)	Benzene (2) (mg/kg)	Toluene (2) (mg/kg)	Total Xylenes (2) (mg/kg)	Ethyl- benzene (2) (mg/kg)	Total Chromium (3) (mg/kg)	Nitrate (4) (mg/kg)	Sulfate (4) (mg/kg)	Fluoride (4) (mg/kg)	STLC	
												Hexavalent Chromium (5) (mg/L)	Chromium (5) (mg/L)
DAC-01		10/19/91	<10	<0.005	<0.005	<0.005	<0.005	..	..	..	..	..	..
DAC-02	excavation	10/19/91	45	<0.005	<0.005	<0.005	<0.005	..	..	..	..	..	..
DAC-03	(15T - 18T)	10/19/91	<10	<0.005	<0.005	<0.005	<0.005	..	..	..	..	..	..
DAC-04		10/19/91	28	<0.005	<0.005	<0.005	<0.005	..	..	..	..	..	..
DAC-05		10/19/91	<10	<0.005	<0.005	<0.005	<0.005	..	..	..	..	..	..
DAC-06		10/19/91	<10	<0.005	<0.005	<0.005	<0.005	..	..	..	..	..	..
DAC-07	excavation (10T)	10/19/91	<10	<0.005	<0.005	<0.005	<0.005	..	..	..	..	..	..
DAC-08		10/19/91	<10	<0.005	<0.005	<0.005	<0.005	..	..	..	..	..	..
DAC-09	excavation (9T)	10/19/91	..	<0.005	<0.005	<0.005	<0.005	23	<10	12	66	..	..
DAC-10		10/19/91	..	<0.005	<0.005	<0.005	<0.005	160	27	250	<25	<0.10	<0.10
DAC-11	pipng (15T)	10/19/91	700	<0.005	<0.005	<0.005	<0.005	..	..	..	..	..	..
DAC-12	spoill pile (15T- 18T)	10/19/91	73	<0.005	<0.005	<0.005	<0.005
DAC-13		10/19/91	24	<0.005	<0.005	<0.005	<0.005

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TABLE 1
SUMMARY OF SOIL ANALYTICAL RESULTS
Douglas Aircraft Company Torrance Facility (C6)
19503 South Normandie Avenue, Torrance, California

Sample No.	Location	Date Sampled	TPH (1) (mg/kg)	Benzene (2) (mg/kg)	Toluene (2) (mg/kg)	Xylenes (2) (mg/kg)	Ethyl- benzene (2) (mg/kg)	Total Chromium (3) (mg/kg)	Nitrate (4) (mg/kg)	Sulfate (4) (mg/kg)	Fluoride (4) (mg/kg)	STLC	
												Hexavalent Chromium (5) (mg/L)	Chromium (5) (mg/L)
DAC-14	spoil pile (15T-18T)	10/19/91	<10	<0.005	<0.005	<0.005	<0.005	..	..	..	..	..	..
DAC-15		10/19/91	2900	<0.005	<0.005	<0.005	<0.005	450	<10	1000	<25	..	..
DAC-16	spoil piles (9T-10T)	10/19/91	4100	<0.005	<0.005	<0.005	<0.005	..	..	..	..	..	..
DAC-17		10/19/91	57	<0.005	<0.005	<0.005	<0.005	..	..	..	..	..	..
DAC-18		10/19/91	1200	<0.005	<0.005	<0.005	<0.005	..	..	..	..	..	..
Regulatory Criteria and Guidelines:													
			TTL (6)	nc	nc	nc	nc	2500	nc	nc	18,000	500	
			STLC (7)	nc	nc	nc	nc	560	nc	nc	180	5	
			SSV-chronic (8)	nc	nc	nc	nc	1,000,000	1,000,000	nc	80,000	nc	
			SSV-5year (8)	nc	nc	nc	nc	2,000	2,000	nc	100	nc	
			RWQCB (9)	100	nc	nc	nc	nc	nc	nc	nc	nc	
Soil samples analyzed by Golden State Analytical Services, Inc., Van Nuys, California.													
.. = not analyzed.													
nc = no criteria or guideline established													
(1) TPH (Total Petroleum Hydrocarbons) analyzed using U.S. EPA Method 418.1													
(2) Analyzed using U.S. EPA Method 8020.													
(3) Analyzed using U.S. EPA Method 7190.													
(4) Analyzed using U.S. EPA Method 300.0m.													
(5) Analyzed using U.S. EPA Method 7197.													
(6) = Total Threshold Limit Concentration (California Code of Regulations, Title 22, Division 4.5).													
(7) = Soluble Threshold Limit Concentration, in mg/L (California Code of Regulations, Title 22, Division 4.5).													
(8) = Soil Ingestion Screening Values (Interim Guidance for Preparation of a Preliminary Endangerment Assessment Report, State of California Department of Health Services, June 22, 1990).													
(9) = Petroleum Hydrocarbon Guidelines, in mg/kg (California Regional Water Quality Control Board, Lahontan Region, January 1987).													

nc = no criteria or guideline established

(1) TPH (Total Petroleum Hydrocarbons) analyzed using U.S. EPA Method 418.1

(2) Analyzed using U.S. EPA Method 8020.

(3) Analyzed using U.S. EPA Method 7190.

(4) Analyzed using U.S. EPA Method 300.0m.

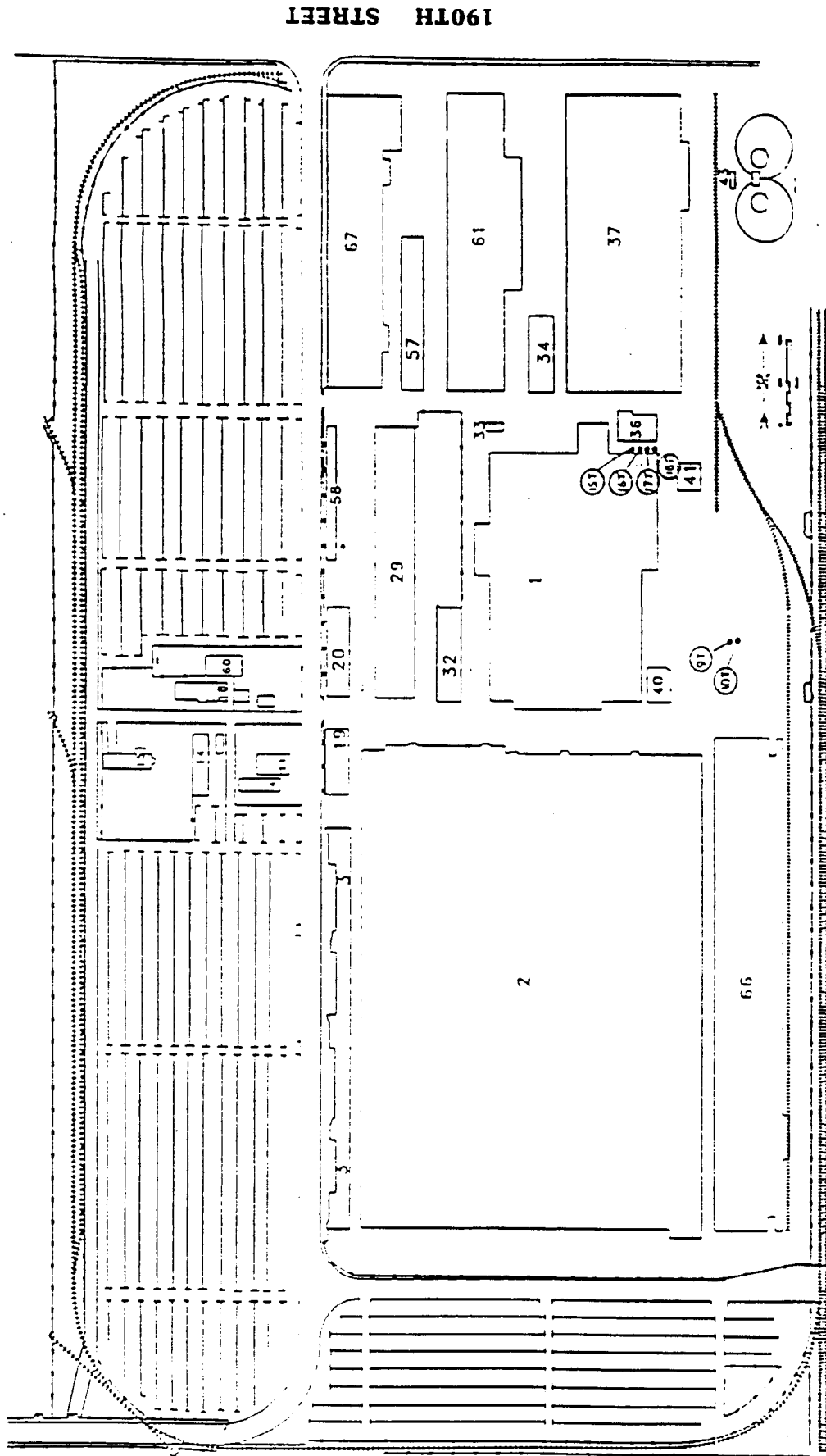
(5) Analyzed using U.S. EPA Method 7197.

(6) = Total Threshold Limit Concentration (California Code of Regulations, Title 22, Division 4.5).

(7) = Soluble Threshold Limit Concentration, in mg/L (California Code of Regulations, Title 22, Division 4.5).

(8) = Soil Ingestion Screening Values (Interim Guidance for Preparation of a Preliminary Endangerment Assessment Report, State of California Department of Health Services, June 22, 1990).

(9) = Petroleum Hydrocarbon Guidelines, in mg/kg (California Regional Water Quality Control Board, Lahontan Region, January 1987).



190TH STREET

NORMANDIE AVENUE

91

Location of underground storage tank



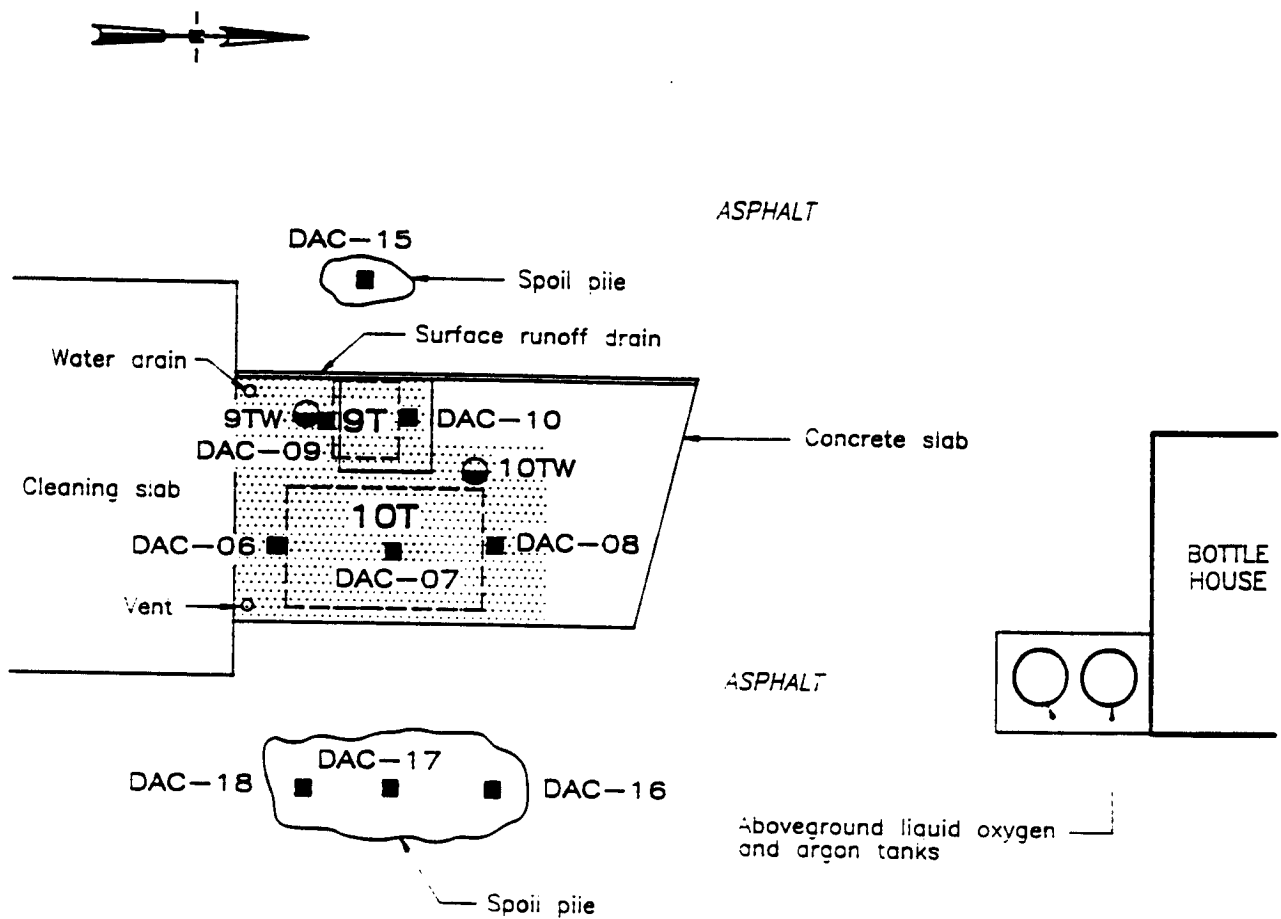
DOUGLAS AIRCRAFT COMPANY
TORRANCE FACILITY (C6)
19503 S. NORMANDIE AVENUE
TORRANCE, CALIFORNIA

SITE LOCATION MAP

FIGURE

1

PROJECT NO.
C34-08.01



LEGEND

- 10TW ● Douglas Aircraft vadose-zone wells removed during excavation of Tanks 9T and 10T
- DAC-10 ■ EMCON soil sample location
- 9T □ Former underground storage tank
- Approximate limits of excavation

0 10 20 FEET
SCALE



EMCON
Southwest

DOUGLAS AIRCRAFT COMPANY
TORRANCE FACILITY (C6)
19503 S. NORMANDIE AVENUE
TORRANCE, CALIFORNIA

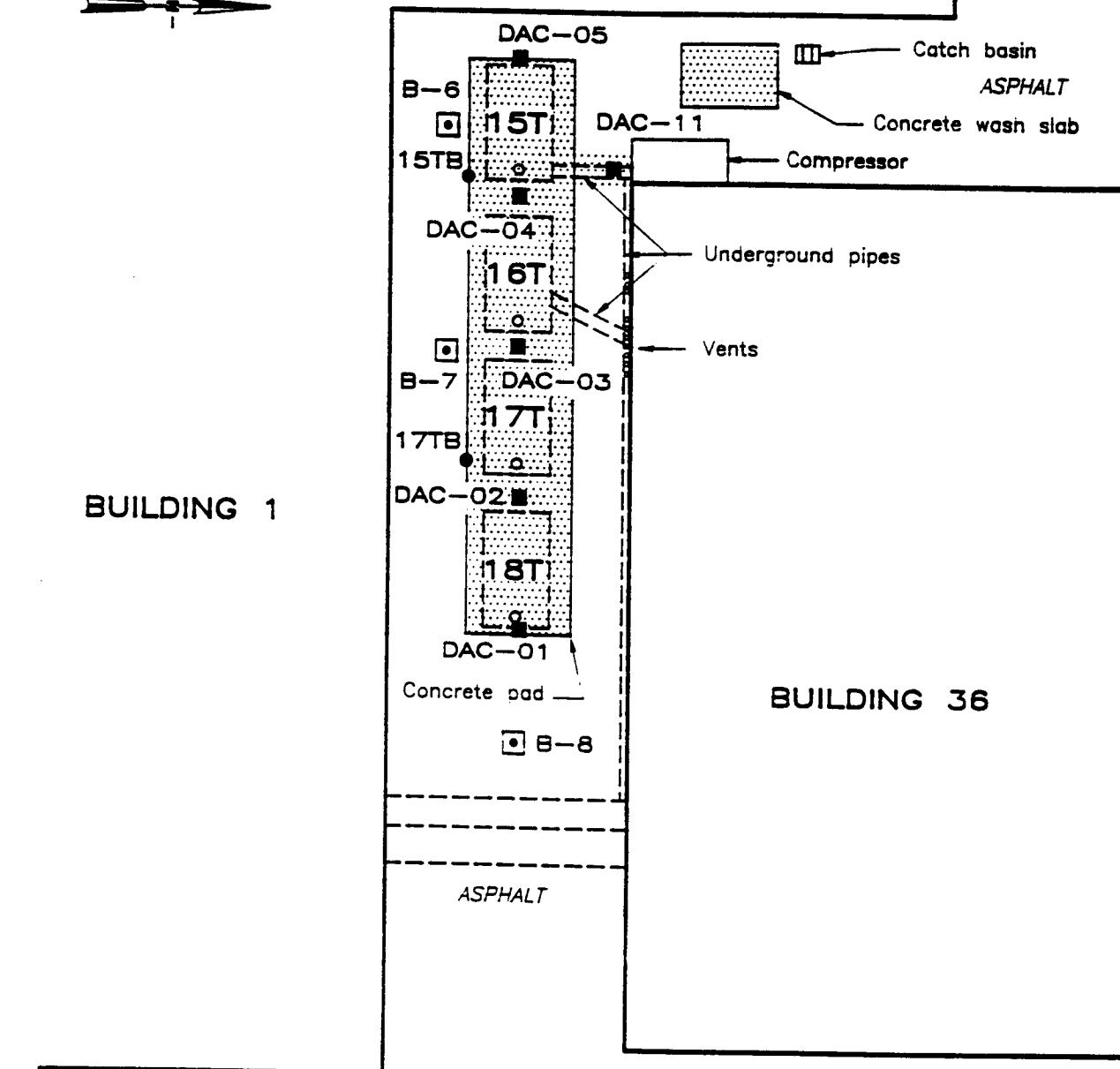
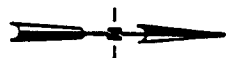
LOCATION OF TANKS 9T AND 10T

FIGURE

2

PROJECT NO.

C34-08.01



LEGEND

- 15TB ● Douglas Aircraft soil boring
- B-7 □ Douglas Aircraft vadose-zone well
- DAC-5 ■ EMCON soil sample location
- 15T □ Former underground storage tank
- Approximate limits of excavation

DAC-12

DAC-13

DAC-14

— Spoil pile

0 10 20 FEET
SCALE



EMCON
Southwest

DOUGLAS AIRCRAFT COMPANY
TORRANCE FACILITY (C6)
19503 S. NORMANDIE AVENUE
TORRANCE, CALIFORNIA

LOCATION OF TANKS 15T THROUGH 18T

FIGURE

3

PROJECT NO.

C34-08.01

ATTACHMENT 1

**ANALYTICAL DATA FROM DAC
SOIL BORINGS 15TB AND 17TB AND
VADOSE WELLS B-6 THROUGH B-8**

TABLE 4 : SOIL ANALYTICAL RESULTS FOR 15T-18T

(Parts Per Million)

SAMPLE NO (Date)	DEPTH (Ft)	OVA	MEK	111-TCA	TCE	TOLUENE	ETHYL BENZENE	TOTAL XYLENES	MIBK	1,4-DIOXANE
15TB (8-24-87)	5	52	---	---	---	---	---	---	---	---
	10	600	0.57	ND	ND	0.056	0.011	0.11	ND	ND
	15	1000+	160	27	10	870	41	460	ND	ND
	20	1000+	1800	38	94	6300	180	1300	ND	ND
17TB (8-24-87)	5	200	ND	ND	ND	ND	ND	ND	ND	ND
	10	30	ND	0.036	ND	ND	ND	ND	ND	ND
	15	45	---	---	---	---	---	---	---	---
	20	60	ND	0.013	ND	ND	ND	ND	ND	ND
B-6 (6-13-89)	5	120	---	---	---	---	---	---	---	---
	10	1000+	ND	ND	0.016	0.064	0.001	0.009	ND	ND
	15	1000+	---	---	---	---	---	---	---	---
	20	1000+	ND	12	45	1900	51	390	ND	ND
B-7 (6-13-89)	5	80	---	---	---	---	---	---	---	---
	10	90	---	---	---	---	---	---	---	---
	15	90	---	---	---	---	---	---	---	---
	20	110	---	---	---	---	---	---	---	---
B-8 (6-14-89)	5	47	---	---	---	---	---	---	---	---
	10	42	---	---	---	---	---	---	---	---
	15	45	---	---	---	---	---	---	---	---
	20	20	---	---	---	---	---	---	---	---

NOTE : ND- None Detected , ---- Not Analyzed at that Depth

ATTACHMENT 2

**LOS ANGELES CITY FIRE DEPARTMENT
TANK REMOVAL PERMIT**

Granted 09-12-91
Expires 09-12-92

City of Los Angeles
P E R M I T

Reg. No. 1856
Fee Paid Exempt-714

In accordance with terms of the application on file with the Fire Prevention Bureau, permission is granted to: **MUST COMPLY WITH FPB REQUIREMENT NO. 41**

Name Douglas Aircraft Company

Mail
to

Disposal Control Service Incorporated
1369 West 9th Street
Upland, CA 91786

Permit to: Abandon 6 atmospheric tank(s) as per plans and specifications submitted to the Fire Prevention Bureau and subject to the field inspector's approval at the site.

Location 19503 South Normandie Avenue BY ORDER OF CHIEF ENGINEER

Fire Marshal

ATTACHMENT 3

UNIFORM HAZARDOUS WASTE MANIFESTS FOR RINSEATE LIQUIDS

Please print or type. (Form designed for use on elite (12-pitch typewriter).

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator's US EPA ID No.

Manifest
Document No.

2. Page 1
of 1

Information in the shaded areas
is not required by Federal law.

3. Generator's Name and Mailing Address

Douglas Aircraft Company Attn: R. Tuell
19503 S. Normandie Avenue Mail Code: C6-59
Torrance, CA 90502
4. Generator's Phone 213-533-7926 OR (213) 533-7231

A. State Manifest Document Number

89479462

B. State Generator's ID

HA1H191361010516198

C. State Transporter's ID

211954

D. Transporter's Phone 1-800-824-3345

5. Transporter 1 Company Name

Disposal Control Service

6. US EPA ID Number

10AT0801034184

7. Transporter 2 Company Name

8. US EPA ID Number

9. Designated Facility Name and Site Address

Norris Industries
5215 S. Boyle Avenue
Los Angeles, CA 90058

10. US EPA ID Number

HA3 10-18-91
CAD027030993

G. State Facility's ID

H. Facility's Phone

213-538-7111

11. US DOT Description (Including Proper Shipping Name, Hazard Class, and ID Number)

a. RQ, Waste Corrosive Liquid, N.O.S.
(Nitric Acid) Corrosive Material; UN1760
(2002, 2007)

12. Containers

No. Type

13. Total Quantity

14. Unit

Wt/Vol

I. Waste No.

State 792
EPA/Other 2002, 2007

b.

c.

d.

J. Additional Descriptions for Materials Listed Above

(a) Acceptance #E-1062 CR2. Waste Mixed Acids.
Waste Generated from Tank 9T Underground
Tank Removal.
Nitric acid 0-10% Hydrofluoric acid 0-1%
Chromic acid 0-6% Fluoride Salts 0-1%
Waste 32-100%

K. Handling Codes for Wastes Listed Above

a. b.

c. d.

15. Special Handling Instructions and Additional Information

In case of accident, contact Chemtree at 800-424-9300. Do not wash
into sewer or waterway. Do not breathe vapors. If unable to
deliver return to generator. Volume is approximate. DOT Emergency
Response Guide #60. EH Permit No. 4-91052402. Norris should

16. bill Disposal Control Service for disposal.

GENERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name
and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and
national government regulations.

If I am a large quantity generator, I certify that I have a program in place to reduce the volume and toxicity of waste generated to the degree I have determined
to be economically practicable and that I have selected the practicable method of treatment, storage, or disposal currently available to me which minimizes the
present and future threat to human health and the environment; OR, if I am a small quantity generator, I have made a good faith effort to minimize my waste
generation and select the best waste management method that is available to me and that I can afford.

Printed/Typed Name

Robert G. Tuell, Jr.

Signature

Robert G. Tuell, Jr.

Month Day Year

11/01/99

17. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name

David A. McCarty

Signature

David A. McCarty

Month Day Year

11/01/99

18. Transporter 2 Acknowledgement of Receipt of Materials

Printed/Typed Name

Signature

Month Day Year

19. Discrepancy Indication Space

20. Facility Owner or Operator Certification of receipt of hazardous materials covered by this manifest except as noted in item 19.

Printed/Typed Name

IDEKAPRI MITSALKEPRA

Signature

IDEKAPRI MITSALKEPRA

Month Day Year

11/01/99

IN CASE OF AN EMERGENCY OR SPILL, CALL THE NATIONAL RESPONSE CENTER 1-800-424-8802; WITHIN CALIFORNIA CALL 1-800-852-7550

GENERATOR

TRANSPORTER

FACILITY

Please print or type. (Form designed for use on elite (12-pitch typewriter).

**UNIFORM HAZARDOUS
WASTE MANIFEST**

1. Generator's US EPA ID No.

Manifest
Document No.

2. Page 1

Information in the shaded areas
is not required by Federal law.

3. Generator's Name and Mailing Address

Douglas Aircraft Company Attn: R. Tuell
12503 S. Normandie Avenue Mail Code: C6-59
Torrance, CA 90502
Generator's Phone (213) 533-7971 or (213) 533-7231

A. State Manifest Document Number

89479459

B. State Generator's ID

H1A1H1A311010514918

C. State Transporter's ID

211621

D. Transporter's Phone

1-800-824-3345

E. State Transporter's ID

F. Transporter's Phone

G. State Facility's ID

C1A1T1A1010101011111

H. Facility's Phone

(213) 533-7971 or (213) 533-7231

5. Transporter 1 Company Name

US EPA ID Number

Disposal Control Service 10A1T0A1010101011111

7. Transporter 2 Company Name

US EPA ID Number

9. Designated Facility Name and Site Address

US EPA ID Number

Chem-Tech Systems, Inc.
3650 E. 26th Street
Vernon, CA 90023

11. USDOT Description (Including Proper Shipping Name, Hazard Class, and ID Number)

12. Containers

13. Total Quantity

14. Unit Wt/Vol

15. Waste No.

a. Non-RCRA, Hazardous Waste Liquid
(Oily water and grease)

No.

Type

01011

TT

17

11

G

State

223

EPA/Other

N/R

State

EPA/Other

State

EPA/Other

State

EPA/Other

State

EPA/Other

State

EPA/Other

State

EPA/Other

State

EPA/Other

State

EPA/Other

State

EPA/Other

State

EPA/Other

State

EPA/Other

State

EPA/Other

State

EPA/Other

State

EPA/Other

State

EPA/Other

State

EPA/Other

State

EPA/Other

J. Additional Descriptions for Materials Listed Above

Tank 10T-Steam Slab Water
Oil and Grease 0-10%
Steam & Cleaning Agent 0-5%
Water 85-100%

ID#101012-02
This waste is from
the removal of 10T
It will contain
sludge and solid

K. Handling Codes for Wastes Listed Above

a.

01

c.

d.

15. Special Handling Instructions and Additional Information

In case of accident contact Chemtree at (800) 424-9300. Do not breathe vapors. Do not wash into sewer or waterway. If unable to deliver return to generator. Volume is approximate.

Send bill to Disposal Control Service for disposal.

GENERATOR'S CERTIFICATION:

I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and national government regulations.

If I am a large quantity generator, I certify that I have a program in place to reduce the volume and toxicity of waste generated to the degree I have determined to be economically practicable and that I have selected the practicable method of treatment, storage, or disposal currently available to me which minimizes the present and future threat to human health and the environment; OR, if I am a small quantity generator, I have made a good faith effort to minimize my waste generation and select the best waste management method that is available to me and that I can afford.

Printed/Typed Name

Robert G. Tuell, Jr.

Signature

Robert G. Tuell, Jr.

Month Day Year

11/15/91

17. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name

MIKE MEMANAMA

Signature

Mike Memanama

Month Day Year

11/15/91

18. Transporter 2 Acknowledgement of Receipt of Materials

Printed/Typed Name

Signature

Month Day Year

19. Discrepancy Indication Space

Received 2277 gallons

20. Facility Owner or Operator Certification of receipt of hazardous materials covered by this manifest except as noted in item 19.

Printed/Typed Name

Richard H. Kim

Signature

Richard H. Kim

Month Day Year

11/11/91

IN CASE OF AN EMERGENCY OR SPILL, CALL THE NATIONAL RESPONSE CENTER 1-800-424-8802; WITHIN CALIFORNIA CALL 1-800-852-7550

Do Not Write Below This Line

ATTACHMENT 4

CERTIFIED INDUSTRIAL HYGIENIST CERTIFICATE

TANK CERTIFICATION REPORT

P.2/12

CTL ENVIRONMENTAL SERVICES
24404 S. Vermont Avenue, #307
Harbor City, CA 90710
TEL: (213) 530-5006

TANK REMOVAL CERTIFICATE #: 02655Date: 10/19/91Permit #: 01956Site: McDonnell DouglasAddress of tank: 17005 S. Normandie
Torrance, CAClient: Disposal Control

TANK DESCRIPTION	TANK SIZE	TANK NUMBER	TANK CONTENTS	RESULTS OF TANK INSPECTION
U.C. Steel	10,000 gallon		waste water/oil/snap	LEL 0%
U.C. Steel	5,000 gallon		acid waste	LEL 0%
U.C. Steel	5,000 gallon		1ST	LEL 0%
U.C. Steel	5,000 gallon		MT	LEL 0%
U.C. Steel	5,000 gallon		1CT	LEL 0%
U.C. Steel	5,000 gallon		1ST	LEL 0%

The tank(s) described above has/have been inspected and found to be gas free based on readings obtained with an MSA type 2A Explosivity Meter (LEL of zero percent). A visual inspection has been made of the interior of the tank(s) and no visible contamination has been observed except as noted below.

EXCEPTION: None

The tank(s) described above is/are approved for removal and transportation.

INSPECTED BY: Duff C. Korman

CERTIFIED BY: STUART E. SALOT, P.H.D.
CERTIFIED INDUSTRIAL HYGIENIST (#1973)

CLIENT COPY
WhiteCTL COPY
GreenFIRE DEPARTMENT COPY
CanaryTRANSPORTERS COPY
PinkTRANSPORTERS COPY
Goldenrod

ATTACHMENT 5

CERTIFICATION OF TANK DISPOSAL

AMERICAN METAL RECYCLING, INC.

2202 South Milliken Avenue
Ontario, CA 91761
(714) 988-8000

No. 37820

P.3/12

TANK DISPOSAL FORM

Date:

10-21-1991

Job #

P.O. #

CONTRACTOR:

Disposal Control Serv.

ADDRESS:

1369 West 9th St, Upland, CA 91786

JOB SITE:

McDonnell Douglas

ADDRESS:

19503 Normandie, Torrance, Calif.

DESTINATION:

A.M.R. 2202 S. Milliken Ave, Ontario, CA 91761

DATE

TIME

PROJECTED TANKS

ORDERED BY

LOG NO.

SPECIAL INSTRUCTIONS

TIME IN

TIME OUT

Replaces Tank Disposal Form #37725

Services Rendered

Cost

Disposal Fee 200.00

Extensive Loading Time 150.00

Disposal Fee with Permit 300.00

Fiberglass Tank Disposal Fee Per Tank 400.00

Fiberglass Tank Delivered 200.00

Bobtail Disposal Fee 250.00

Cancellation Fee Del. 450.00

TOTAL CHARGES \$ 0

All fees incurred are per load unless specified. Terms are net 30 days from date of invoice. Contractor's signature represents acceptance of terms for payment, and confirms that tank removal complies with State laws.

QTY	TANKS RECEIVED GALLONS	TYPE	NET TONS	TOTAL
280			.14	
280			.14	
280			.14	
1000 - 6 L			.51	
3000			.57	
3000			1.32	2.42
3000			2.42	2.42
3000			2.42	2.42
7500			3.56	
8000			3.82	
12000			4.93	

NO. OF TANKS

3

TOTAL

NET TONS

7.26

*F - FIBERGLASS

*S - STEEL 105

CONTRACTOR'S SIGNATURE

CERTIFICATE OF TANK DISPOSAL / DESTRUCTION

THIS IS TO CERTIFY THE RECEIPT AND ACCEPTANCE OF THE TANK(S) AS SPECIFIED ABOVE. ALL MATERIALS SPECIFIED HAVE BEEN COMPLETELY DESTROYED FOR SCRAP PURPOSES ONLY.

Cheryl Loria
AUTHORIZED REP

October 21, 1991
DATE

CONTRACTOR COPY

AMERICAN FUEL TANK METAL RECYCLING, INC.

2202 South Milliken Avenue
Ontario, CA 91761
(714) 988-8000

No. 37820

TANK DISPOSAL FORM

Date:

10-21-91

Job #

P.O. #

CONTRACTOR:

Disposal Control Serv.

ADDRESS:

1369 West 9th St, Upland, CA 91786

JOB SITE:

McDonnell Douglas

ADDRESS:

19503 Normandie, Torrance, Calif.

DESTINATION:

A.M.R. 2202 S. Milliken Ave, Ontario, CA 91761

DATE

TIME

PROJECTED TANKS

ORDERED BY

LOT NO.

SPECIAL INSTRUCTIONS

TIME IN

TIME OUT

Replaces Tank
Disposal Form
#37725

Services Rendered Cost

Disposal Fee 200.00

Extensive Loading Time 150.00

Disposal Fee with Permit 300.00

Fiberglass Tank Disposal Fee Per Tank 400.00

Fiberglass Tank Delivered 200.00

Bobtail Disposal Fee 250.00

Cancellation Fee Del. 250.00

TOTAL CHARGES \$ 0

All fees incurred are per load unless specified.
Terms are net 30 days from date of invoice.
Contractor's signature represents acceptance
of terms for payment, and confirms that tank
removal complies with State laws.

CONTRACTOR'S SIGNATURE

QTY.	TANKS RECEIVED GALLONS	TYPE	NET TONS	TOTAL
200		<input type="checkbox"/>	14	
200		<input type="checkbox"/>	24	
200		<input type="checkbox"/>	24	
1000 - 6 ft		<input type="checkbox"/>	51	
2000		<input type="checkbox"/>	57	
2000		<input type="checkbox"/>	1.32	2.42
2000		<input type="checkbox"/>	2.42	2.42
2000		<input type="checkbox"/>	2.42	2.42
7500		<input type="checkbox"/>	3.82	
8000		<input type="checkbox"/>	3.82	
12000		<input type="checkbox"/>	4.83	

NO. OF TANKS

TOTAL

NET TONS

3

7.26

*F - FIBERGLASS

*S - STEEL 105

CERTIFICATE OF TANK DISPOSAL / DESTRUCTION

THIS IS TO CERTIFY THE RECEIPT AND ACCEPTANCE OF THE TANK(S) AS SPECIFIED ABOVE. ALL MATERIALS SPECIFIED
HAVE BEEN COMPLETELY DESTROYED FOR SCRAP PURPOSES ONLY.

Cheryl Lopez
AUTHORIZED REP.

October 21, 1991
DATE

CONTRACTOR COPY

**AMERICAN FUEL TANK
METAL
RECYCLING, INC.**

2202 South Milliken Avenue
Ontario, CA 91761
(714) 988-8000

No. **37721**

TANK DISPOSAL FORM

Date: **10-21-91**
Job #
P.O. #

CONTRACTOR: **DISPOSAL CONTROL**
ADDRESS: **9TH ST. UPLAND CAL.**
JOB SITE: **McDONNELL DOUGLAS**
ADDRESS: **19503 NORMANDE, TORRANCE, CAL.**
DESTINATION: **A.M.R. 2202 S. Milliken Ave., Ontario, CA 91761**

DATE: **10-21-91** TIME: **10:30 AM** PROJECT: **TANKS** ORDERED BY: **DISPOSAL CONTROL** LIC. NO.
SPECIAL INSTRUCTIONS: **PR-23-102**

Services Rendered	Cost	TANKS RECEIVED												
		QTY	GALLONS	TYPE PSI	NET TONS									
Disposal Fee	200.00													
Extensive Loading Time	150.00													
Disposal Fee with Permit	300.00													
Fiberglass Tank Disposal Fee Per Tank	400.00													
Fiberglass Tank Delivered	200.00													
Bobtail Disposal Fee	250.00													
Construction Fee Del	368.00													
TOTAL CHARGES	\$ 1,320.00													
All fees incurred are per load unless specified. Terms are net 30 days from date of invoice. Contractor's signature represents acceptance of terms for payment, and confirms that tank removal complies with State laws.		<table border="1"> <thead> <tr> <th>NO. OF TANKS</th> <th>TOTAL</th> <th>NET TONS</th> </tr> </thead> <tbody> <tr> <td>1</td> <td></td> <td>1.32</td> </tr> <tr> <td>*F - FIBERGLASS</td> <td></td> <td>*S - STEEL 105</td> </tr> </tbody> </table>				NO. OF TANKS	TOTAL	NET TONS	1		1.32	*F - FIBERGLASS		*S - STEEL 105
		NO. OF TANKS	TOTAL	NET TONS										
1		1.32												
*F - FIBERGLASS		*S - STEEL 105												
CONTRACTOR'S SIGNATURE: [Signature]														

CERTIFICATE OF TANK DISPOSAL / DESTRUCTION
THIS IS TO CERTIFY THE RECEIPT AND ACCEPTANCE OF THE TANK(S) AS SPECIFIED ABOVE. ALL MATERIALS SPECIFIED
HAVE BEEN COMPLETELY DESTROYED FOR SCRAP PURPOSES ONLY.
[Signature] AUTHORIZED REP. **10-21-91** DATE

CONTRACTOR COPY

**AMERICAN FUEL TANK
METAL
RECYCLING, INC.**

No. 37727

TANK DISPOSAL FORM

2202 South Milliken Avenue
Ontario, CA 91761
(714) 998-8000

Date:

10-21, 1991

Job #

P.O.#

CONTRACTOR: Disposal Control				
ADDRESS: 9th St. Upland Cal.				
JOB SITE: Mc Donnell Douglas				
ADDRESS: 19503 Normandie Av. Torrance Cal.				
DESTINATION: A.M.P. 2202 S. Milliken Ave. Ontario, CA 91761				
DATE	TIME	NO. OF TANKS	ORDERED BY	LES. NO.
SPECIAL INSTRUCTIONS:			TIME IN:	
			TIME OUT:	
Services Rendered		Cost		
Disposal Fee		200.00		
Extensive Loading Time		150.00		
Disposal Fee with Permit		300.00		
Fiberglass Tank Disposal Fee Per Tank		400.00		
Fiberglass Tank Delivered		200.00		
Bobtail Disposal Fee		250.00		
Cancellation Fee Dec		250.00		
TOTAL CHARGES		\$ 1500		
All fees incurred are per load unless specified. Terms are net 30 days from date of invoice. Contractor's signature represents acceptance of terms for payment, and confirms that tank removal complies with State laws.				
CONTRACTOR'S SIGNATURE				
NO. OF TANKS		TOTAL		NET TONS
2		6.75		
*F - FIBERGLASS		*S - STEEL 105		

CERTIFICATE OF TANK DISPOSAL / DESTRUCTION
THIS IS TO CERTIFY THE RECEIPT AND ACCEPTANCE OF THE TANK(S) AS SPECIFIED ABOVE. ALL MATERIALS SPECIFIED
HAVE BEEN COMPLETELY DESTROYED FOR SCRAP PURPOSES ONLY.

OUTRAGED REP

DATA

CONTRACTOR COPY

ATTACHMENT 6

COMPACTION REPORT - TANK EXCAVATION BACKFILL

DUCO ENGINEERING, INC.

SOIL & GEOLOGIC INVESTIGATIONS
FILL CONTROL - SOIL TESTING

20938 CURRIER RD. - WALNUT, CA 91789
(818) 964-3449 • (714) 594-7414 • FAX (714) 594-3853

October 28, 1991

Disposal Control Service
1369 W. Ninth Street
Upland, California 91786

Subject: Report of Compaction Tests
Tank Removal Backfill
McDonald Douglas Facility
19503 S. Normandy Avenue
Torrance, California
Job No.: 1-206

Gentlemen:

In accordance with your request this firm has performed field density tests to determine the relative compaction of the soils used to backfill the two (2) tank removal excavations at the subject site.

Prio to placing the compacted fill, the tank excavations were brought to within 5.0 to 6.0 feet of finish grade with coarse gravel.

The results of these tests, taken in accordance with ASTM test method D1556 and their locations, shown on a sketch of the areas, are attached as a part of this report.

Maximum density and optimum moisture were determined for each type of soil in accordance with ASTM test method D1557-78T. The results of these determinations are as follows:

<u>Soil Type</u>	<u>Maximum Density</u>	<u>Optimum Moisture</u>
A-Silty sand	124.0 PCF	10.2%
B-Fine to med. sand	108.5 PCF	10.6%

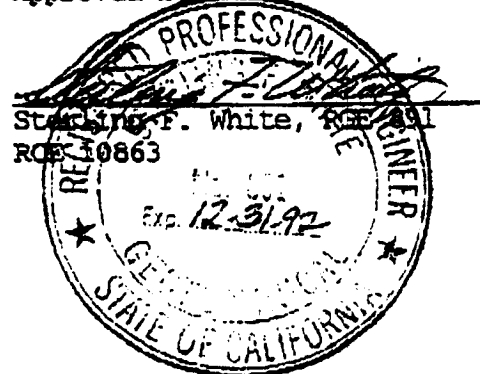
Based on the results of the field density tests, as reported herein, it is the opinion of this firm that the tank removal excavations have been properly backfilled and compacted.

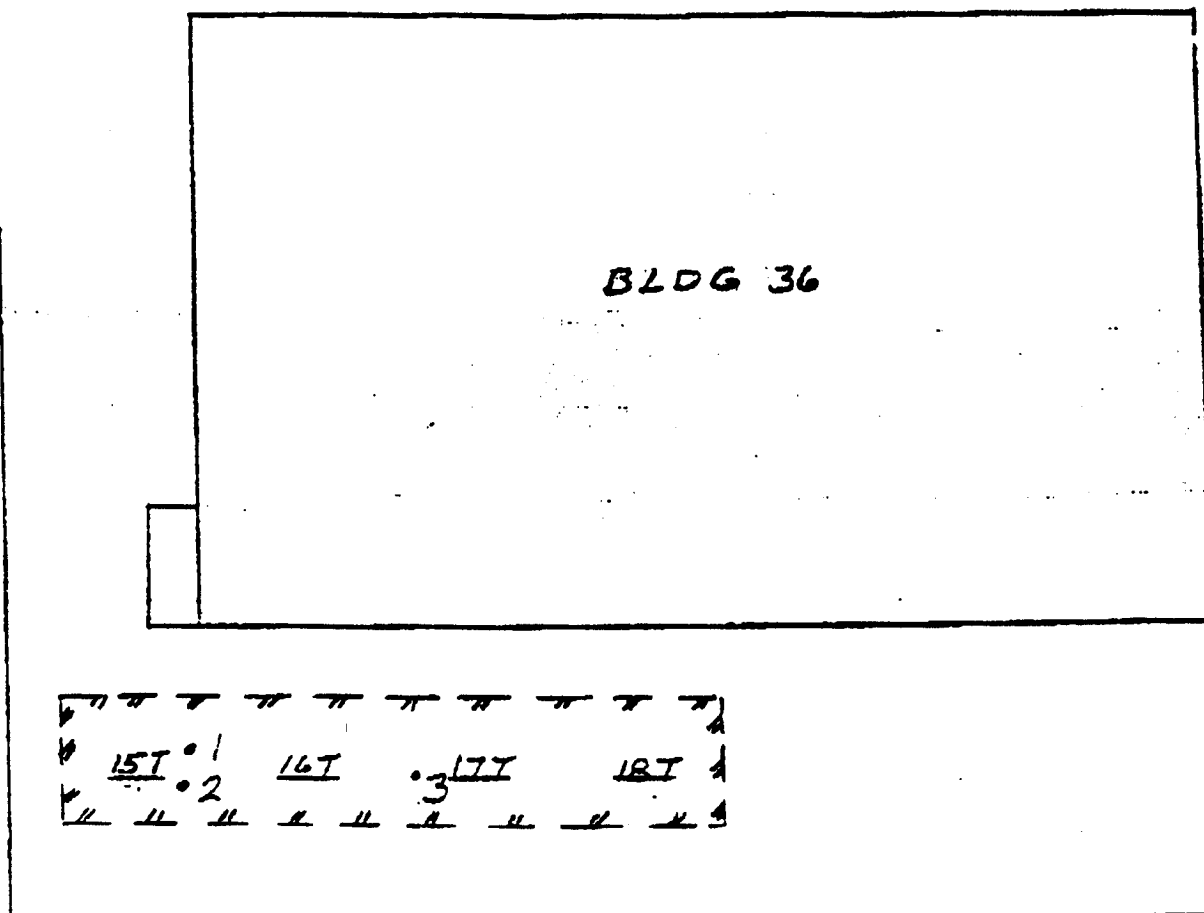
Respectfully submitted,

DUCO ENGINEERING, INC.

Ronald Cobine
Ronald Cobine

Approved by:





BLDG 1

DUCO ENGINEERING

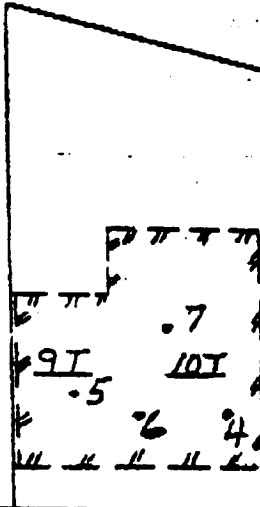
20536 CURRIER ROAD • WALNUT, CALIFORNIA 91780



2 LOCATION OF
TEST

SCALE 1" = 20'
JOB NO. 1-206
FIGURE NO. 1

BOTTLE
HOUSE



CLEANING
SLAB

DUCO ENGINEERING

20836 CURRIER ROAD • WALNUT, CALIFORNIA 91786



2 LOCATION OF
TEST

677 FILL
W-9 AREA

SCALE 1" = 20'
JOB NO. 1-206
FIGURE NO. 2

DUCO ENGINEERING, INC.

SUMMARY OF FIELD DENSITY TESTS

Job No.: 1-206

<u>Test No.</u>	<u>Date</u>	<u>Location</u>	<u>Depth</u>	<u>% Moist.</u>	<u>Dry Den. P.C.F.</u>	<u>Soil Type</u>	<u>% Comp.</u>
1	10-24-91	North Tanks	-3'	8.3	107.0	A	86.3
2	"	North Tanks	retest of #1	9.6	117.1	A	94.4
3	10-25-91	North Tanks	FG	5.8	114.7	A	92.5
4	"	South Tanks	-5.5'	3.8	102.1	B	94.1
5	"	South Tanks	-4.0'	3.9	99.7	B	91.9
6	10-26-91	South Tanks	-2.0'	9.4	104.7	B	96.5
7	"	South Tanks	FG	14.9	105.4	B	97.1

ATTACHMENT 7

SOIL SAMPLING AND TANK REMOVAL MONITORING

ATTACHMENT 7

SOIL SAMPLING AND TANK REMOVAL MONITORING

Soil samples were collected by pushing 4-inch long by 2-inch diameter brass rings into soil lifted by clam-shell or backhoe from specific locations in each excavation. Each sample was collected from native soil below the fill material approximately 1 to 2 feet below each tank. At each sampling interval one full brass liner was collected, sealed with Teflon tape and plastic end caps, and properly labelled. The sample was then placed on ice and transported to a California-certified laboratory along with appropriate chain-of-custody documentation.

The PID was also utilized along with a combustible gas indicator and Draeger tubes to detect the presence of potentially harmful constituents in the breathing zone of site personnel as specified in the site health and safety plan.

ATTACHMENT 8

**CERTIFIED ANALYTICAL REPORT
AND CHAIN-OF-CUSTODY DOCUMENTATION**



GOLDEN STATE

Analytical Services, Inc.

15735-1 Strathern St. • Van Nuys • CA 91406
Tel: (818) 376-1122 • Fax: (818) 781-8128

October 29, 1991

Mr. Scott Sankey
EMCON Southwest
3300 N. San Fernando Blvd.
Burbank, Ca. 91504

RE: Douglas Aircraft / C34-08.01

Dear Mr. Sankey :

Enclosed are the results of the samples submitted to our lab on October 22, 1991. For your reference, our service request number for this work is 7568.

All analyses were performed in accordance with the laboratory's quality assurance program.

Please call if you have any questions.

Respectfully submitted:

Dr. B. Gene Bennett
GOLDEN STATE ANALYTICAL SERVICES, INC.



GOLDEN STATE

Analytical Services, Inc.

15735-1 Strathern St. • Van Nuys • CA 91406
Tel: (818) 376-1122 • Fax: (818) 781-8128

Client:	EMCON Southwest	Matrix:	Soil
Project Name:	Douglas Aircraft - Torrance	Date Received:	10/22/91
Project#:	C34-08.01	Date Analyzed:	10/23/91
P.O.#:	N/A	GSAS Job#:	7568

Total Petroleum Hydrocarbons (418.1)

mg/Kg (ppm)

Client Sample#	GSAS Sample#	Amount Detected	Reporting Limits
DAC - 01	GS-1091-1001	BRL	10
DAC - 02	GS-1091-1002	45	10
DAC - 03	GS-1091-1003	BRL	10
DAC - 04	GS-1091-1004	28	10
DAC - 05	GS-1091-1005	BRL	10
DAC - 06	GS-1091-1006	BRL	10
DAC - 07	GS-1091-1007	BRL	10
DAC - 08	GS-1091-1008	BRL	10

BRL: Below Reporting Limit

Approved By: Dr. B. Gene Bennett



GOLDEN STATE

Analytical Services, Inc.

15735-1 Strathern St. • Van Nuys • CA 91406
Tel: (818) 376-1122 • Fax: (818) 781-8128

Client:	EMCON Southwest	Matrix:	Soil
Project Name:	Douglas Aircraft - Torrance	Date Received:	10/22/91
Project#:	C34-08.01	Date Analyzed:	10/23/91
P.O.#:	N/A	GSAS Job#:	7568

Total Petroleum Hydrocarbons (418.1)

mg/Kg (ppm)

Client Sample#	GSAS Sample#	Amount Detected	Reporting Limits
DAC - 11	GS-1091-1011	700	10
DAC - 12	GS-1091-1012	73	10
DAC - 13	GS-1091-1013	24	10
DAC - 14	GS-1091-1014	BRL	10
DAC - 15	GS-1091-1015	2900	10
DAC - 16	GS-1091-1016	4100	10
DAC - 17	GS-1091-1017	57	10
DAC - 18	GS-1091-1018	1200	10

BRL: Below Reporting Limit

Approved By: Dr. B. Gene Bennett

[Handwritten signature]



GOLDEN STATE Analytical Services, Inc.

15735-1 Strathern St. • Van Nuys • CA 91406

Tel: (818) 376-1122 • Fax: (818) 781-8128

Client:	EMCON Southwest	Matrix:	Soil
Project Name:	Douglas Aircraft - Torrance	Date Received:	10/22/91
Project#:	C34-08.01	Date Analyzed:	10/23/91
P.O.#:	N/A	GSAS Job#:	7568

Total Chromium (EPA 7190)

mg/Kg (ppm)

Client Sample#	GSAS Sample#	Amount Detected	Reporting Limits
DAC - 09	GS-1091-1009	23	2.5
DAC - 10	GS-1091-1010	160	2.5
DAC - 15	GS-1091-1015	450	2.5

BRL: Below Reporting Limit

Approved By: Dr. B. Gene Bennett



GOLDEN STATE

Analytical Services, Inc.

15735-1 Strathern St. • Van Nuys • CA 91406
Tel: (818) 376-1122 • Fax: (818) 781-8128

Client:	EMCON Southwest	Matrix:	Soil
Project Name:	Douglas Aircraft - Torrance	Date Received:	10/22/91
Project#:	C34-08.01	Date Analyzed:	10/23/91
P.O.#:	N/A	GSAS Job#:	7568

BTX & E (8020)

<u>Client Sample#</u>	<u>GSAS Sample#</u>	<u>Benzene</u> <u>ug/Kg (ppb)</u>	<u>Toluene</u> <u>ug/Kg (ppb)</u>	<u>Total</u> <u>Xylenes</u> <u>ug/Kg (ppb)</u>	<u>Ethyl</u> <u>Benzene</u> <u>ug/Kg (ppb)</u>
DAC - 01	GS-1091-1001	BRL	BRL	BRL	BRL
DAC - 02	GS-1091-1002	BRL	BRL	BRL	BRL
DAC - 03	GS-1091-1003	BRL	BRL	BRL	BRL
DAC - 04	GS-1091-1004	BRL	BRL	BRL	BRL
DAC - 05	GS-1091-1005	BRL	BRL	BRL	BRL
DAC - 06	GS-1091-1006	BRL	BRL	BRL	BRL
DAC - 07	GS-1091-1007	BRL	BRL	BRL	BRL
DAC - 08	GS-1091-1008	BRL	BRL	BRL	BRL
DAC - 09	GS-1091-1009	BRL	BRL	BRL	BRL
Reporting Limits		5.0	5.0	5.0	5.0

BRL: Below Reporting Limit

Approved By: Dr. B. Gene Bennett



GOLDEN STATE Analytical Services, Inc.

15735-1 Strathern St. • Van Nuys • CA 91406
Tel: (818) 376-1122 • Fax: (818) 781-8128

Client:	EMCON Southwest	Matrix:	Soil
Project Name:	Douglas Aircraft - Torrance	Date Received:	10/22/91
Project#:	C34-08.01	Date Analyzed:	10/23/91
P.O.#:	N/A	GSAS Job#:	7568

BTX & E (8020)

Client Sample#	GSAS Sample#	Benzene ug/Kg (ppb)	Toluene ug/Kg (ppb)	Total Xylenes ug/Kg (ppb)	Ethyl Benzene ug/Kg (ppb)
DAC - 10	GS-1091-1010	BRL	BRL	BRL	BRL
DAC - 11	GS-1091-1011	BRL	BRL	BRL	BRL
DAC - 12	GS-1091-1012	BRL	BRL	BRL	BRL
DAC - 13	GS-1091-1013	BRL	BRL	BRL	BRL
DAC - 14	GS-1091-1014	BRL	BRL	BRL	BRL
DAC - 15	GS-1091-1015	BRL	BRL	BRL	BRL
DAC - 16	GS-1091-1016	BRL	BRL	BRL	BRL
DAC - 17	GS-1091-1017	BRL	BRL	BRL	BRL
DAC - 18	GS-1091-1018	BRL	BRL	BRL	BRL
Reporting Limits		5.0	5.0	5.0	5.0

BRL: Below Reporting Limit

Approved By: Dr. B. Gene Bennett



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Client:	EMCON Southwest	Matrix:	Soil
Project Name:	Douglas Aircraft - Torrance	Date Received:	10/22/91
Project#:	C34-08.01	Date Analyzed:	10/23/91
P.O.#:	N/A	GSAS Job#:	7568

Anion (EPA 300.0m)

mg/Kg (ppm)

Client Sample#:	DAC - 09	DAC - 10	DAC - 15	Reporting
GSAS Sample#:	GS-1091-1009	GS-1091-1010	GS-1091-1015	Limits
Nitrate	BRL	27	BRL	10
Sulfate	12	250	1000	10
Fluoride	66	BRL	BRL	25

BRL: Below Reporting Limit

Approved By: Dr. B. Gene Bennett

Chain of Custody Record Analytical Services Request

15735-1 Strathern St.
Van Nuys, CA 91406
(818) 376-1122 • FAX (818) 781-8128

**GOLDEN STATE
ANALYTICAL SERVICES, INC.**

CLIENT NAME EMCON Southwest		ADDRESS/PHONE/FAX 3300 N. Burbank Blvd. FAX (818) 781-8128		ANALYSES REQUESTED		GSAS JOB # 7568							
PROJECT NAME/LOCATION Douglas Airport / Torrance		CLIENT PROJECT NO. C34-08.01											
PROJECT MANAGER Scott Sankey		SAMPLER(S) Robert Glaser		P.O. NO.									
SAMPLE IDENTIFICATION NO.	DATE	TIME	LAB SAMPLE NO.	SAMPLE MATRIX	TRPH	BTX E	418.1	8020	Total C	2190	Nitrate, Sulfate, Phosphate	REQUESTED TURNAROUND TIME	REMARKS
DAC-01	10/19/91		1001	Soil	✓	✓	✓	✓	✓	✓	✓	4 days	418.1 + 8020 @
DAC-02			1002		✓	✓	✓	✓	✓	✓	✓		UST no priority
DAC-03			1003		✓	✓	✓	✓	✓	✓	✓		Charge
DAC-04			1004		✓	✓	✓	✓	✓	✓	✓		
DAC-05			1005		✓	✓	✓	✓	✓	✓	✓		
DAC-06			1006		✓	✓	✓	✓	✓	✓	✓		
DAC-07			1007		✓	✓	✓	✓	✓	✓	✓		
DAC-08			1008		✓	✓	✓	✓	✓	✓	✓		
DAC-09			1009		✓	✓	✓	✓	✓	✓	✓		7190 and 3000
DAC-10			1010		✓	✓	✓	✓	✓	✓	✓		results reported
DAC-11			1011		✓	✓	✓	✓	✓	✓	✓		separately from
DAC-12			1012		✓	✓	✓	✓	✓	✓	✓		418.1 + 8020
RELINQUISHED BY: (Signature)		DATE	TIME	RECEIVED BY: (Signature)		DATE	TIME						
		10-21-91	8:00 AM										
RELINQUISHED BY: (Signature)		DATE	TIME	RECEIVED BY: (Signature)		DATE	TIME						
		10-22-91	12:30 PM										
RELINQUISHED BY: (Signature)		DATE	TIME	RECEIVED BY: (Signature)		DATE	TIME						
		10/22/91	12:35 PM										
SEND INVOICE TO:													

WHITE COPY: Accompanies Samples
YELLOW COPY: Sampler

**GOLDEN STATE
ANALYTICAL SERVICES, INC.**

15735-1 Strathern St.
Van Nuys, CA 91406
(818) 376-1122 • FAX (818) 781-8128

**Chain of Custody Record
Analytical Services Request**

CLIENT NAME EMCON Southwest		ADDRESS/PHONE/FAX 3300 N. Burbank Blvd. FAX (818) 846-4280		ANALYSES REQUESTED		CSAB JOB # 7568
PROJECT NAME/LOCATION Douglas Aircraft / Torrance		CLIENT PROJECT NO. C34-08.01				
PROJECT MANAGER Scott Sankey		SAMPLER(S) Robert Glaser				
SAMPLE IDENTIFICATION NO.		DATE	TIME	LAB SAMPLE NO.	SAMPLE MATRIX	REMARKS
DAC-13	10-19-91			1091-1013	soil	4 days 4:30 PM + 8020 C
DAC-14				1014		45T no priority charge
DAC-15				1015		
DAC-16				1016		
DAC-17				1017		
DAC-18				1018		
RELINQUISHED BY: (Signature)		DATE	TIME	RECEIVED BY: (Signature)		
		10-21-91	8:00 AM			
RELINQUISHED BY: (Signature)		DATE	TIME	RECEIVED BY: (Signature)		
		10-22-91	12:55 PM			
RELINQUISHED BY: (Signature)		DATE	TIME	RECEIVED BY: (Signature)		
		10/22/91	12:55 PM			
SEND INVOICE TO:						

WHITE COPY: Accompanies Samples

YELLOW COPY: Sampler



GOLDEN STATE

Analytical Services, Inc.

15735-1 Strathern St. • Van Nuys • CA 91406
Tel: (818) 376-1122 • Fax: (818) 781-8128

November 04, 1991

Mr. Scott Sankey
EMCON Southwest
3300 N. San Fernando Blvd.
Burbank, Ca. 91504

RE: Douglas Aircraft / C34-08.01

Dear Mr. Sankey :

Enclosed are the results of the samples submitted to our lab on October 22, 1991. Request for additional analysis was phoned in by Keith Farrell on October 28, 1991. For your reference, our service request number for this work is 7568-A.

All analyses were performed in accordance with the laboratory's quality assurance program.

Please call if you have any questions.

Respectfully submitted:

Dr. B. Gene Bennett
GOLDEN STATE ANALYTICAL SERVICES, INC.

ATTACHMENT 9

LIMITATIONS

The purpose of an environmental assessment is to reasonably evaluate the potential for or actual impact of past practices on a given site area. In performing an environmental assessment, it is understood that a balance must be struck between a reasonable inquiry into the environmental issues and an exhaustive analysis of each conceivable issue of potential concern. The following paragraphs discuss the assumptions and parameters under which such an opinion is rendered.

No investigation is thorough enough to exclude the presence of hazardous materials at a given site. If hazardous conditions have not been identified during the assessment, such a finding should not therefore be construed as a guarantee of the absence of such materials on the site, but rather as the result of the services performed within the scope, limitations, and cost of the work performed.

Environmental conditions may exist at the site that cannot be identified by visual observation. Where subsurface work was performed, our professional opinions are based in part on interpretation of data from discrete sampling locations that may not represent actual conditions at unsampled locations.

Except where there is express concern of our client, or where specific environmental contaminants have been previously reported by others, naturally occurring toxic substances, potential environmental contaminants inside buildings, or contaminant concentrations that are not of current environmental concern may not be reflected in this document.

The services described in this report were performed consistent with generally accepted professional consulting principles and practices. No other warranty, express or implied, is made. These services were performed consistent with our agreement with our client. This report is solely for the use and information of our client unless otherwise noted. Any reliance on this report by a third party is at such party's sole risk.

Opinions and recommendations contained in this report apply to conditions existing when services were performed and are intended only for the client, purposes, locations, time frames, and project parameters indicated. We are not responsible for the impacts of any changes in environmental standards, practices, or regulations subsequent to performance of services. We do not warrant the accuracy of information supplied by others, nor the use of segregated portions of this report.